**Objectives:** The single nucleotide polymorphisms (SNPs) in the FADS1/FADS2 gene cluster have been associated with serum lipid levels and the incidence of coronary artery disease (CAD), but the results are inconsistent. It is unknown whether these SNPs in this gene cluster are associated with ischemic stroke (IS). Therefore, the present study was undertaken to evaluate the associations between two SNPs (rs174546 and rs174601) and serum lipid levels, as well as the risk of IS or CAD.
**Methods:** A total of 534 patients with CAD, 553 patients with IS and 582 healthy controls were recruited in this study. The patients with is received strict neurological examination and brain magnetic resonance imaging scan. It was diagnosed according to the International Classification of Diseases (9th Revision). Coronary angiography was performed in patients with CAD. CAD was defined as significant coronary stenosis (> 50%) in at least either one of the three main coronary arteries or their major branches (branch diameter>2 mm). Subjects with a history of hematologic, neoplastic, renal, liver, thyroid, autoimmune diseases and type I diabetes mellitus were excluded. Genotypes of the rs174546 and rs174601 SNPs were determined by Snapshot technology platform.
**Results:** The genotype distribution was concordant with the Hardy-Weinberg proportions in both patients and controls. There were significant differences in allelic frequency and genotype distribution between controls and IS or CAD patients ($P<0.05$), the TT genotypic frequency of the two SNPs was higher in IS or CAD patients than in controls ($P<0.05$). The rs174546 and rs174601 C allele carriers conferred a reduced risk for IS and CAD (rs174546: OR = 0.62, 95% CI = 0.48-0.80 for IS and OR = 0.57, 95% CI = 0.44-0.75 for CAD; rs174601: OR = 0.61, 95% CI = 0.48-0.79 for IS and OR = 0.54, 95% CI = 0.41-0.70 for CAD; respectively). The rs174546 SNP was in strong LD with rs174601 (D' = 0.951; $r^2$ = 0.860). Two common haplotypes (frequency>3%) derived from the two SNPs accounted for above 90% haplotype variations. Among these two common haplotypes, the haplotype of C-C (rs174546-rs174601) was also associated with a reduced risk for IS and CAD (OR = 0.76, 95% CI = 0.63-0.91 for IS and OR = 0.72, 95% CI = 0.60-0.87 for CAD; respectively), whereas the haplotype of T-T (rs174546-rs174601) was associated with an increased risk for IS and CAD (OR = 1.32, 95% CI = 1.10-1.59 for IS and OR = 1.18, 95% CI = 0.98-1.41 for CAD; respectively). There was no significant association between genotypes and serum lipid levels. There were no significant effects of the rs174546 or rs174601 SNPs on angiographic severity of CAD in different genetic models ($P>0.05$).
**Conclusions:** The present study suggests that the SNPs of rs174546 and rs174601 in the FADS1/FADS2 gene cluster are associated with the risk of IS or CAD, but not with serum lipid parameters.

### GW25-e0588

### MicroRNA34a, microRNA21 and microRNA23a as candidate biomarkers in patients with coronary artery disease

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**Objectives:** To investigate circulating microRNA (miRNA) expression in apolipoprotein E (apoE) knockout mice (apoE-/-), and to validate these miRNAs in human coronary artery disease (CAD).
**Methods:** Pooled plasma from 10 apoE-/- mice and from 10 healthy C57BL/6 (B6) mice was used to perform the microarray analysis.
**Results:** MiR-34a, -21, -23a, -30a, and -106b were differentially expressed in apoE-/- mice. These expression changes of the miRNAs were confirmed by real-time quantitative reverse-transcription PCR (qRT-PCR) in apoE-/- mice. Then, miR-34a, -21, -23a, -30a, and -106b were detected in the plasma of 32 patients with CAD and of 20 healthy controls. Only miR-34a, -21 and -23a were significantly differentially expressed in the plasma of CAD patients (all $P<0.01$).
**Conclusions:** MiRNA34a, miRNA21 and miRNA23a were elevated in CAD patients. These miRNAs might serve as biomarkers of CAD development and progression.

### GW25-e1451

### Evaluate the ischeamic mitral regurgitation using dobutamine stress real-time three-dimensional echocardiography

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**Objectives:** This study was performed to examine the effect of dobutamine stress real time three-dimensional echocardiography (DS-RT3DE) on ischemic mitral regurgitation (IMR) secondary to coronary artery disease and to test the hypothesis that IMR and left ventricular (LV) pump function change differently in different stress state in patients with coronary artery response.
**Methods:** DS-RT3DE was performed in 90 consecutive patients with suspected or known coronary artery disease. Three-dimensional echocardiography was used to determine the change in left ventricular volume and mitral regurgitation at baseline and every dobutamine infusion dose (5, 10, 20, 30, 40, 50 μg/kg.min for 3 minutes at each dose). The LV volume and ejection fraction, LV systolic desynchronization, and mitral regurgitation color flow Doppler contracta area were quantified. Patients were assigned to three groups according to IMR contracta area variation during the stress procedure, group I included patients who IMR decreased in all stress states, group II included patients who IMR increased in some states and decreased in other states, group III included patients who IMR increased in all states.
**Results:** All patients achieved 20ug/kg·min dose, 82 patients achieved 30ug/kg·min dose, 64 patients achieved 40ug/kg·min dose, only 39 patients achieved 50ug/kg·min dose. Atropine was administered in 14 patients (16%). There was no severe adverse event occurred during the stress procedure in this study. In group I (42 patients), LV end-diastolic and end-systolic volume decreased and ejection fraction increased with dobutamine dose increasing, and achieved peak value at 50ug/kg.min dose ($P<0.05$). In group II (31 patients), LV end-diastolic and end-systolic volume and ejection fraction changed same as group I ($P<0.05$), but the extent less than group I. In group III (17 patients), LV end-diastolic and end-systolic volume increased and ejection fraction decreased in low dose ($P<0.05$), whereas no significant change in high dose ($P>0.05$). LV synchronism improved in all groups, and group I had better performance than other groups ($P<0.05$).
**Conclusions:** Dobutamine stress testing, in combination with three-dimensional echocardiography, is an effective method to obtaining accurate information in the assessment of the behavior of IMR and LV function. Our study indicates IMR decreased with LV pump function and synchronisms improving in most patients, it also suggest that the heart still has considerable hibernate, stunning myocardium. Otherwise, if the IMR keep increase during whole stress procedure, it proposes the coronary artery has severe stenosis and less viable myocardium. These findings may helpful to make up appropriate IMR therapy plan in patients with ischemic heart disease. We hypotheses only the patients with worsen IMR in DS-RT3DE need to take mitral valve repair or replacement together with coronary artery bypass grafting operation, and we will try to approve it in future studies.

### GW25-e2306

### A comparison of transradial and transfemoral approaches for angiography and intervention in patients with post-coronary artery bypass surgery: in-hospital outcomes and 1 year clinical follow-up

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**Objectives:** Percutaneous coronary intervention (PCI) through transradial approach (TRA) has shown great effectiveness among unselected patients. However, very few studies have compared the short and median outcomes between TRA and transfemoral approach (TFA) for diagnostic angiography or intervention in post-coronary artery bypass graft (CABG) patients.
**Methods:** A total of 404 post-CABG patients who referred for graft angiography or intervention were retrospectively included from June 1, 2006 to April 30, 2011. The primary endpoint was defined as in-hospital net adverse clinical events (NACE), which included all-cause death, myocardial infarction, stroke, repeat revascularization and major bleeding. The secondary endpoint was defined as 1 year major adverse cardiovascular events (MACE), which included all-cause death, MI or repeat revascularization.
**Results:** The incidence rates of the primary endpoint (2.7% vs. 2.7%, P=1.00) and the secondary endpoint (11.5% vs. 12%, P=0.88) were similar between TRA and TFA. TRA was associated with similar procedure time (33.23±25.39 vs. 29.67±19.87, P=0.18) and contrast volume (157.11±89.65 vs. 175.80±111.35, P=0.09) compared with TFA. Significant reduction of access site-related bleeding and post-procedure stay was detected in the TRA group ($P<0.05$). In patients who had undergone ad hoc intervention of the grafts, the contrast volume was higher in the TFA group (156.00±69.70 ml vs. 198.38±132.89 ml, P=0.05). The adjusted rates of in-hospital NACE and 1 year MACE were similar between TRA and TFA, and TRA was an independent predictor of BARC≥2 bleeding.
**Conclusions:** Compared with TFA, TRA showed the same effectiveness in regard to the in-hospital and 1 year major outcomes in post-CABG patients undergoing PCI. TRA was also associated with reduced rate of extra bleeding and length of hospital stay. For patients undergoing the grafts intervention, the contrast volume was significantly reduced by TRA.

### GW25-e4245

### The Relationship between Erythrocyte Sedimentation Rate and Myocardial Infarction in Rheumatoid Arthritis

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**Objectives:** Inflammatory response has observed in myocardial infarction (MI). Rheumatoid arthritis (RA) is a kind of systemic inflammatory disease and studies before have proved MI happened more frequently than general people. This research had been done to explore the risk factors related to MI in RA patients.